

# **Spherically symmetric perturbation of an ultrarelativistic fluid in a homogeneous and isotropic universe**

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## **Abstract**

A solution of the linearized Einstein equations for a spherically symmetric perturbation of the ultrarelativistic fluid in the homogeneous and isotropic universe is obtained. Conditions on the boundary of the perturbation are discussed. Examples of particle-like and wave-like solutions are given.

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## **Keywords**

Perturbation, Relativistic cosmology, Spherical symmetry, Ultrarelativistic fluid, Universe